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**ANDRONIC PAPPAS, et al., Plaintiffs, v. SONY ELECTRONICS, INC., et al., Defendants.****Civil Action No. 96-339J****UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF PENNSYLVANIA***136 F. Supp. 2d 413; 2000 U.S. Dist. LEXIS 19531; CCH Prod. Liab. Rep. P15,993***December 27, 2000, Decided**

**DISPOSITION:** [\*\*1] Defendant's motion for summary judgment, dkt. no. 40, GRANTED. Final judgment entered for defendant on all counts in plaintiffs' complaint.

**COUNSEL:** For ANDRONIC PAPPAS, JOGRAPHIA PAPPAS, plaintiffs: Karon L. Martin, White & Williams, Philadelphia, PA.

For SONY ELECTRONICS, INC., SONY CORPORATION OF AMERICA, defendants: Glenn M. Campbell, Andrew J. Connolly, Post & Schell, Philadelphia, PA.

**JUDGES:** D. Brooks Smith, United States District Judge.

**OPINION BY:** D. Brooks Smith

**OPINION:** [\*415]

**MEMORANDUM AND ORDER**

**D. BROOKS SMITH, District Judge**

In the early morning hours of November 16, 1994, a fire broke out in the home of plaintiffs Andronic and Jographia Pappas. Although a number of fire investigators scrutinized the fire scene and damage in the weeks and months following the blaze, only one, Richard Brugger, reached a conclusion as to its cause. Brugger opined that the fire was caused by a Sony television set that had been located in the southeast corner of the basement family room. Plaintiffs sued Sony, asserting

claims of strict product liability, negligence, and breach of warranties. After nearly two (2) years of discovery, Sony filed a motion for summary judgment, dkt. no. 40, claiming [\*\*2] that Brugger's testimony should be excluded under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993) and its progeny. Id. at 9. To resolve this evidentiary dispute, I held a two-day Daubert hearing. Dkt. nos. 52 & 61. Today, I conclude that Mr. Brugger's causation testimony is inadmissible under Daubert. Accordingly, I will grant defendant's motion and enter final judgment for Sony on all counts.

**I**

November 15, 1994 was a "routine day" for Andronic Pappas. Dkt. no. 42, Ex. C, at 10. He went to work in the morning, returned home that evening, and, after dinner, he and his wife settled down to watch television in their basement family room. Id. at 10, 17-18. The television was located in the southeast corner of their family room, id. at 44, where it sat on top of a television stand. Id. Ex. G, at 1. On top of the television was a VCR. Id. Ex. C, at 44. Both the VCR and the television were plugged into an outlet, also in the southeast corner of the room. Id. at 48-49. Shortly after 11:30 p.m., plaintiffs turned off the television using a remote control, dkt. no. 47, Ex. F (Dec. 19, 1994 letter from Pappas to Brugger), [\*\*3] and went upstairs to bed. Dkt. no. 42, Ex. C, at 17.

At approximately 4:00 a.m. on November 16, 1994, Mr. Pappas was awakened by his wife who had heard a noise and feared that someone had broken into their house. Id. at 23-24. When Mr. Pappas got up to

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investigate, he discovered that the house was on fire. Id. at 24. Quickly, he returned to the bedroom and said to his wife "our house is on fire, let's get out of here." Id. He picked up the phone beside their bed and called 911. As soon as the operator answered the line, Mr. Pappas said "there is a fire at 3507 Baker Boulevard" and put down the phone. Id. at 24-25. As his wife got dressed, Mr. Pappas kicked out the screen of the bedroom window. Id. The plaintiffs then climbed out onto the roof of their house and down to the ground. Id. After they reached safety, they once again called for help. Id. at 25-26.

[\*416] By the time City of Altoona Fire Investigator John Mascia arrived at 5:00 a.m., the fire was already "under control." Id. Ex. D, at 24. Mascia's job was not to put out the fire. He left that work up to the fire crews that arrived long before he did. Instead, Mascia's job was to examine the fire [\*4] scene and determine the origin and cause of the fire. He followed the "burn pattern" in the house, proceeding from the least burned to the heaviest burned area of the house. Id. at 34. Based on this eyeball investigation, Mascia concluded that the fire originated in the southeast corner of the family room. Id. at 34-36. As to the cause of the fire, Mascia concluded that the fire was caused by an electrical failure in either the television or the VCR. n1 For one, the television and the VCR were the most heavily burned items in the entire house. They were, in Mascia's words, a "glob." Id. at 36. Second, the Sony television and the VCR were the only energy sources in the southeast corner of the room, the area of the fire's origin. Id. at 84, 107. Nevertheless, Mascia admitted that he was not qualified to opine on the precise nature of the electrical malfunction that caused the fire. Id. at 85-86. And he never could tell whether it started in the television or in the VCR.

n1 Based on the damage done to the television and VCR, Mascia believed that the two items were a "combo unit." Id. at 36, 85.

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State Police Fire Marshall James Behe was the next investigator to arrive at the Pappas house. Like Mascia, Behe determined that the fire originated in the southeast corner of the room, near the television and the VCR. Id. Ex. E, Behe Report, at 2. In particular, Behe noted that there was a "V" pattern on the wall behind where the television and VCR were located, indicating that the fire

originated in either the television or the VCR. Id. Behe Dep. at 73-74. He also noted that there was "extensive damage" to the television and VCR. Id. Behe Report, at 3. Finally, he determined that there was "internal" damage to the television that was sustained by "more than just exposure to heat from fire." Id. Behe Dep. at 35. In fact, Behe concluded that the internal damage to the television could only be the result of "extensive heat from burning." Id.

Although he determined the origin of the fire, Behe could not make an exact assessment of the cause of the fire. Id. Behe Report, at 2 (stating that "due to the extensive damage present," he could not "make a determination as to what was the actual ignition point for the fire itself."); id. Behe Dep. at 39. Nonetheless, [\*\*6] he was able to eliminate a number of alternative causes. First, he ruled out the television stand as the cause of the fire. Id. Behe Dep. at 35-37. Second, he eliminated plaintiffs' air hockey game as the cause of the fire. Id. at 43-44. Third, he eliminated the circuit breaker panel as the cause of the fire. Id. at 55-56. At the end of the day, though, Behe felt that it "really wasn't [his] job" to determine the cause of the fire because he was not an electrical engineer. Id. at 39.

Shortly after Mascia and Behe investigated the fire scene, the Pappases retained David Kloss of INS Investigations Bureau to conduct a cause and origin investigation. Aff. of David Kloss, P 2. n2 Kloss conducted a site examination on November 21, 1994. Id. P 3. Like Behe and Mascia, he concluded [\*417] that the fire originated in the southeast corner of the basement family room. Id. P 4. In particular, he observed that the burn patterns and fire damage were more severe in the southeast corner of the room. Id. P 3(i). Additionally, he noticed wide "V" patterns in the southeast corner, which are indicative of origin. Id. P 3(j).

n2 At the Daubert hearing, plaintiffs introduced the affidavit of David Kloss. Dkt. no. 62, at 54. Defendant objected to the admission of this affidavit, claiming that it did not have an opportunity to cross-examine Mr. Kloss concerning the matters in this affidavit. Id. I reject defendant's objection and will consider this affidavit with all the other evidence of record in this case. This affidavit is merely a concise version of Mr. Kloss's previous testimony and submissions in this case. Id. Defendant has

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already had the opportunity to question Mr. Kloss concerning these matters during his deposition. Dkt. no. 42, Ex. F, Kloss Dep.

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Kloss was also able to narrow the cause of the fire to either the television or the VCR. Id. P 4. In examining the remains of the television, Kloss found that the television's plastic casing and power cord were "completely consumed by fire." Id. P 3(p). Likewise, when he examined the VCR, Kloss found that it and its power cord were "severely burned." Id. P 3(q). In addition, Kloss was able to rule out all other potential causes of the fire other than a malfunction in either the television or the VCR. Id. First, he examined the electrical outlet near the television and the VCR. Although he concluded that the outlet was "severely damaged," he "found no evidence that the fire originated in that or any other outlet in the room." Id. P 3(o). Additionally, Kloss examined the circuit breaker panel box in the southeast corner "but found no physical evidence indicative of malfunction and fire ignition." Id. P 3(r). Finally, he examined the remains of the electric air hockey game and "found no evidence of malfunction or short circuit." Id. P 3(t). Like all of the other investigators that came before him though, Mr. Kloss was unable to determine precisely which item [\*\*8] was the cause of the fire: the television or the VCR. Id. P 4. n3

n3 Before leaving the Pappas home, Mr. Kloss collected the remains of the television and VCR, labeled these items, and took them with him. Id. P 3(n).

Less than a month after receiving Kloss's report, the Pappases retained an electrical engineer, Richard Brugger, to determine the precise cause of the fire. Dkt. no. 54, at 26. Brugger arrived at the Pappas home on December 16, 1994, id. at 27, and began his investigation almost immediately. First, he walked around the outside of the house. He then moved inside, walking from the least burned to the most burned sections of the house. Id. at 28. As he investigated, Brugger took photographs. Id. at 28, 30. When he entered the family room, Brugger noticed that the southeast corner of the room had been burned more than any other. Id. at 32. Once in the southeast corner, he examined the circuit breaker panel. Based on his examination, he determined that there was

no indication of [\*\*9] electrical malfunction in the circuit breaker panel. Id. at 32-33, 67. Next, he examined the location where the electrical outlet had been. n4 He saw no indication that a fire had started in the outlet. Id. at 33. Finally, Brugger noticed an area of carpet in the southeast corner that had not been burned. When he asked Mr. Pappas about this area, Brugger learned that this was the prior location of the television stand, the television, and the VCR. Id. at 33-34. n5 Based on his observations, Brugger concluded that the fire originated in the southeast corner of the family room, specifically at the location of the television and the VCR. Id. at 35.

n4 Before Brugger's arrival, Kloss had removed the electrical outlet for further examination. Id. at 33.

n5 Because a portion of the carpet where the television stand stood was not burned, Brugger assumed that not all the stand had been consumed by the fire. Dkt. no. 62, at 33. Brugger never examined the bottom of the stand. Id.

Brugger then [\*\*10] sought to determine the cause of the fire. In doing so, he coupled [\*418] his personal review of the fire scene with an examination of the remains of the television, VCR, and electrical outlet from the southeast corner of the family room. Id. at 38. Brugger began with the VCR. Pls.' Ex. 4. Through a visual examination, he concluded that the fire did not start inside the VCR. Dkt. no. 54, at 45. For instance, the external components of the VCR suffered greater damage than those components on the inside of the product. Id. Plastic gears on the VCR were melted on their outside, but not on their inside. Id. at 44. The part of the power supply cord outside the VCR had lost its insulation, while the portions of the cord inside the VCR had melted -- but not burned -- insulation. Dkt. no. 42, Ex. G, Brugger Report, at 3-4; dkt. no. 54, at 44. And a videotape that was lodged in the VCR was melted with one exception: it was scorched on the side that was exposed to the outside of the VCR. Dkt. no. 42, Ex. G, Brugger Report, at 3-4. Brugger concluded that "the heat vector was from the outside in," indicating that the fire did not start inside the VCR. Dkt. no. 54 at 45, 49. Based on these [\*\*11] observations, and others, dkt. no. 42, Ex. G, Brugger Report, at 3-4, Brugger ruled out the VCR as the cause of the fire. Id. at 5; dkt. no. 54, at 49.

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Brugger then turned to the electrical outlet that was in the southeast corner of the room at the time of the fire. Pls.' Ex. 5. This was the outlet that the VCR and television were plugged into in the early morning of November 16, 1994. Dkt. no. 54, at 45. Brugger examined the outlet under magnification and found no abnormal electrical activity. Dkt. no. 42, Ex. G, Brugger Report, at 3. In particular, Brugger noted that the insulation was still on the wires. Dkt. no. 54, at 45-46. Additionally, Brugger's observation of the area surrounding the outlet convinced him that the fire did not start in the outlet. Id. at 46. Accordingly, Brugger ruled out the electrical outlet as the cause of the fire. Dkt. no. 42, Ex. G, Brugger Report, at 5.

Finally, Brugger examined the remains of the Sony television set. He observed that the inside of the television set was "totally burned out" with most of the television's electronic parts "embedded in a ball of molten and burned plastic." Dkt. no. 42, Ex. G, Brugger Report, at 4. Based on the [\*\*12] extensive internal damage to the television set, Brugger determined that the fire burned from the inside of the television to the outside. Id. Brugger Dep. at 128. He noted that the "burn pattern would have been different" if the fire had started outside of the television set. Id. at 129. n6

n6 Brugger also based his conclusion that the fire started inside the television because of the way that the television and VCR were situated on the floor after the fire and based on the markings on the remains of the two (2) items. Dkt. no. 62, at 39-41. Brugger's theory was that the television began to melt and the VCR, which was situated on top of the television, fell to the floor. After the VCR was on the ground, the remains of the television fell on top of the VCR. Id.

Having decided that the fire started inside the television set, Brugger tried to determine what in particular caused the fire. "Due to the damage to the set, the total burn-out of the inside of the set, [he did not] have a basis for identifying [\*\*13] a specific component that failed." Id. at 127; see also dkt. no. 54, at 49, 64. Nevertheless, Brugger did surmise that certain energized circuits within the television malfunctioned and started the blaze. Brugger reviewed various materials and determined that certain circuits within the television were energized at the time the fire began. Dkt. no. 54, at 49. n7

First, he looked at a [\*419] Sony manual and concluded that internal components remained energized while the television was off. Dkt. no. 42, Ex. G, Brugger Dep. at 82-83. n8 Second, Brugger reviewed schematics of the internal components of the television set, dkt. no. 54, at 50-62, and determined that the television was energized at the time of the fire. Id. Based on this examination, Brugger concluded that there was sufficient current flow through the Sony television set that, "under unusual circumstances," could cause a fire. Id. at 62. n9

n7 Brugger learned from Mr. Pappas that the television had been plugged in and that plaintiffs had shut the television off using remote control on the night of the fire. Dkt. no. 47, Ex. F, (Dec. 19, 1994 Letter from Pappas to Brugger). Even a Sony representative acknowledged that various circuitry and componentry in the television remained energized even when the television was in the "off" position so that the television could be turned on with the remote control. Dkt. no. 47, Ex. G, at 34-35.

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n8 The manual reviewed by Brugger at the time was actually for a different model number television than the one at issue in this case. Id. at 82-83. The model number at issue in this case is the Sony Trinitron model KV-32XBR-15. Id. Ex. C, at 73-76. The manual reviewed by Brugger was for Sony Trinitron model KV-2781R/RM-731. Id. Ex. G, Brugger Dep. Ex. 3.

n9 Mr. Brugger made this determination that the television was energized even though he did not have the power cord to the set. Dkt. no. 62, at 44-45. Brugger admitted that the power cord is a piece of very important evidence needed to determine whether the television was energized at the time of the fire. Id. at 45.

But such a fire would only occur, Brugger opined, if there was a defect in the television set. Id. at 63-64. Brugger believed that under normal circumstances, the mere fact that components in the television remain "energized" even when the television is off is not enough to cause a fire. Id. at 63. In fact, as Brugger explained,

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these energized components would usually be unable to generate enough power [\*\*15] to cause sufficient heat to ignite a fire. Id. Accordingly, Brugger concluded that something unusual must have happened on November 16, 1994 in order to cause the fire at the Pappas home. In particular, Brugger concluded that there must have been a defect in the television. Id. at 64.

Brugger also concluded that there was fuel inside the television set to cultivate the fire after it started. Id. at 65. "Dust, grease, and dirt that always accumulates inside of electronic components" were perhaps the first of the fuels seized by the newly started fire. Id. Electrical components, wires, resistors, and insulating materials would have been the next food for the growing blaze. Id. at 66. Although Brugger acknowledged that many of the components in the television were fire retardant when new, he believed that these fire retardant qualities broke down as a result of contaminants such as dust, grease, oils, and the age and normal use of the set. Dkt. no. 62, at 4-5. Whatever had been the ultimate fuel for this growing fire, what was obvious to Brugger was that such fuel had been present. Indeed, all components in the Sony television did burn. Dkt. no. 54, at 66. Based on [\*\*16] an examination of the remains of the television, and after excluding all other causes, Brugger concluded to a reasonable degree of scientific certainty that the television caused the fire in the Pappas home. Id. at 48.

In making his determination concerning the precise cause of the fire, Brugger did not use a fixed set of guidelines. One set of fire guidelines that Brugger was aware of at the time of his investigation was the NFPA 921, a book published by the National Fire Protection Association. Id. at 66; see also Def.'s Ex. 1. n10 Although [\*\*420] NFPA 921 is meant as a guide for fire investigators, Brugger stated that "it is not a rule. It is not a step by step procedure that each investigation must follow." Dkt. no. 54, at 66. There was another set of guidelines that Brugger was aware of at the time: Kirk's Fire Investigation. Id. at 71. Although Brugger acknowledged that this book set forth an established method for fire investigation, he nonetheless noted that he was not "obliged" to follow it. Id. In essence, what Brugger's method boiled down to was reliance on his own experience, knowledge, and one simple principle: "all fires are different from one another. [\*\*17]" Id. at 67.

n10 Although the 1995 edition of the NFPA 921 was not published at the time that Brugger

conducted his investigation, he acknowledged that the guidelines in the manual "are the same ones that were generally followed in this field" at the time of the fire. Dkt. no. 54, at 70.

Armed with Brugger's opinion, plaintiffs sued Sony in the Court of Common Pleas of Blair County. Dkt. no. 42, Ex. A. In their complaint, they alleged that the Sony Trinitron television "malfunctioned and caused a fire to ignite inside the television and caused damage to the real and personal property of plaintiffs." Id. P 8. Plaintiffs asserted claims for strict liability, id. Count I, negligence, id. Count II, and breach of warranties, id. Count III. Almost immediately, defendant Sony removed the case to this Court. Dkt. no. 1. After nearly two (2) years of discovery, defendant moved for summary judgment. Dkt. no. 40. In this motion, defendant sought to exclude Brugger's testimony concerning the cause [\*\*18] of the fire under Daubert and its progeny. Recognizing that plaintiffs' case turned on the testimony of Mr. Brugger, I denied defendant's motion without prejudice and scheduled a Daubert hearing to determine the admissibility of that expert testimony. Dkt. no. 50. After the close of this two-day hearing, I formally notified the parties that I would determine the admissibility of Mr. Brugger's testimony and resume consideration of defendant's motion for summary judgment. Dkt. no. 63. It is to these two matters that I now turn.

## II

Any opinion concerning the admissibility of expert testimony must begin with *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993). In *Daubert*, the United States Supreme Court interpreted *Federal Rule of Evidence* 702 as requiring district court judges to act as gatekeepers to insure that expert testimony is reliable, relevant, and helpful to the jury. *Daubert*, 509 U.S. at 597. Although the *Daubert* opinion was limited to the admissibility of scientific testimony, the Supreme Court later held that a trial court's gatekeeping obligation extends to all expert testimony, [\*\*19] whether or not scientific in nature. See *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 151, 143 L. Ed. 2d 238, 119 S. Ct. 1167 (1999). Just this year, *Federal Rule of Evidence* 702 was amended to embody the principles set forth in *Daubert* and *Kumho Tire*. Today, under Rule 702, an expert may not render an opinion unless: "(1) the testimony is based on sufficient

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facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." *Fed.R.Evid. 702* (emphasis added). The proponent of the expert testimony bears the burden of showing that it satisfies the requirements of Rule 702. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311, 1316 (9th Cir. 1995); *Oddi v. Ford Motor Company*, 234 F.3d 136, 2000 WL 1517673 \*6 (3d Cir. 2000). n11

n11 The Committee Notes to the amended Rule 702 cite and discuss several Court of Appeals decisions that have properly applied Daubert and its progeny. Among these decisions are numerous cases from the Third Circuit. See Committee Note to 2000 Amendments to *Fed.R.Evid. 702*. Accordingly, I conclude that amended Rule 702 does not effect a change in the application of Daubert in the Third Circuit.

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It is the second Rule 702 factor -- whether the expert's opinion is based on a reliable methodology -- that is at issue in this case. In a number of cases since Daubert, the Third Circuit has set forth specific factors that a district court must consider in determining whether expert testimony is sufficiently reliable. These factors include the following:

(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; (8) the non-judicial uses to which the method has been put.

*In re Paoli Railroad Yard PCB Litigation*, 35 F.3d 717, 742 n.8 (3d Cir. 1994) ("Paoli II"); see also *Elcock v. Kmart Corp.*, 233 F.3d 734, 2000 WL 1782158 \*9 (3d Cir. 2000). Although these factors are not intended as an

"impenetrable barrier," *Oddi*, 234 F.3d 136, 160, 2000 WL 1517673 [\*21] at \*21, they are to be seriously considered by district courts deciding whether to admit expert testimony. Indeed, "in a particular case the failure to apply one or another of them may be unreasonable" and grounds for reversal. *Kumho Tire*, 526 U.S. at 159 (Scalia, J. concurring).

In two (2) recent cases, the Third Circuit excluded expert testimony for failing to comply with these Daubert factors. In *Elcock*, for instance, the Court vacated a district court's decision to admit the testimony of Dr. Chester Copermann, a vocational rehabilitation expert who opined at trial that the plaintiff was 50% to 60% vocationally disabled. *Elcock*, 233 F.3d at 740, 2000 U.S. App. LEXIS 34822, \*9, 2000 WL 1782158 at \*3. n12 Copermann's testimony had helped the plaintiff win a large verdict in a slip and fall case against Kmart. Id. at \*1. Although Copermann was a social scientist, and not one versed in the "harder sciences," the Court still applied the Daubert factors to his testimony. Id. at \*11 ("the gist of the above Daubert factors are nonetheless implicated in this case.").

n12 The Court ultimately instructed the district court to hold a Daubert hearing to determine the admissibility of Copermann's expert testimony. Id. at \*14.

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When Copermann's methodology was judged against these factors, his technique was found wholly lacking in reliability. For one, "Copermann never explained his method in rigorous detail" and "it would have been nearly impossible for Kmart's experts to repeat Copermann's subjective methods." Id. at \*11. As a result of this failure, the Court could not find that Copermann's "method consists of a testable hypothesis" for which there are 'standards controlling the technique's operation.' Id. (quoting first and fourth Daubert factors). Additionally, plaintiff did not introduce any evidence that Copermann's method "was either used by other experts in the field or even referenced in the vocational rehabilitation literature." Id. at \*13. Thus, Copermann failed to prove that his method was "generally accepted" and that there was any relationship between his method and "methods which have been established to be reliable." Id. at \*12 (quoting fifth and sixth Daubert factors). Because Copermann had failed "to adduce much evidence

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validating his methods," the Third Circuit vacated the district court's decision to admit his expert testimony. *Id.* at \*14.

The Third Circuit [\*\*23] applied the same rigorous analysis to the expert's testimony in *Oddi*. In that case, *Oddi* had been severely injured when a bread truck he was driving struck a guardrail and a bridge abutment. *Oddi* sued Ford, the manufacturer of the [\*422] truck, claiming that a "defective" front bumper design on the truck allowed the underside of the truck to ride up or "ramp" onto the guardrail and strike the bridge abutment. *Oddi*, 234 F.3d at 141, 2000 WL 1517673 at \*1. To support his theory of design defect, *Oddi* introduced the opinion of John Noettl, an engineer. 234 F.3d at 141, *Id.* at \*2. Noettl testified that the bumper design on the truck was defective and that the front bumper would not have ramped had it been strengthened with either bracketry or wedge supports. The district court excluded Noettl's testimony under Daubert, *id.*, and the Third Circuit affirmed. 234 F.3d at 152, *Id.* at \*21.

The problem with Noettl's testimony was that he completely failed to demonstrate that it was based on a reliable methodology.

Noettl testified that he based the opinions contained in his . . . report in part on a review of the accident reports, photographs, witnesses' statements, *Oddi*'s medical records, [\*\*24] and *Oddi*'s deposition testimony; and in part on his own [Noettl's] "experience," "academic training," and "Research that [he does] almost on a continuous basis, reviewing technical literature." However, Noettl was unable to identify any particular literature that he relied upon to form any of the opinions contained in his preliminary report.

234 F.3d at 148, *Id.* at \*9. In addition, Noettl had conducted no tests to verify his theory and did not calculate the force that was inflicted on the truck by the guardrail at impact. 234 F.3d at 158, *Id.* at \*19. Indeed, Noettl

used little, if any methodology beyond his

own intuition. There is nothing here to submit to peer review, and it is impossible to ascertain any rate of error for Noettl's assumptions about the forces that caused *Oddi*'s horrific injuries. Similarly, no standards control his analysis, and no "gatekeeper" can assess the relationship of Noettl's method to other methods known to be reliable and the non-judicial uses to which it has been put.

234 F.3d at 158, *Id.* at \*20. At the end of the day, Noettl's opinion was based solely on his training and years of experience as an engineer. There was no evidence upon which to judge the reliability [\*\*25] of Noettl's method other than the *ipse dixit* of Noettl himself. This was insufficient to withstand Daubert scrutiny. 234 F.3d at 158, *Id.* at \*19.

### III

Like the experts in *Elcock* and *Oddi*, Brugger has failed to come forward with sufficient evidence of his methodology to survive a Daubert challenge. During a two-day Daubert hearing, plaintiffs did not introduce one book or article setting forth proper fire causation technique. They did not submit one witness, other than Brugger himself, to testify about the reliability of Brugger's examination. They did not even introduce specific evidence about how Brugger's method in this case was similar to methods employed by him or others in the past. With such evidence, I would have been able to assess whether Brugger's methodology in this case was reliable. Without it, I have little choice but to exclude his testimony. Admittedly, Daubert is not an impenetrable barrier to the admission of expert testimony. Experts need not possess a special key or invoke a magic incantation before the gates of the courtroom are opened to them. Nonetheless, Daubert is a hurdle that experts must surmount. And, before the gates to the courtroom [\*\*26] will be opened in this Circuit, a proposed expert must do more than simply say "let me in (because I say so)."

A cursory review of the record shows that plaintiffs have failed to meet their burden under Daubert. At the Daubert hearing, Brugger offered an opinion that [\*423] the fire in the Pappas home was caused by the Sony television. He arrived at this theory by following three (3) methodological steps. First, by looking at the physical remains of the television, he determined that the

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television burned from the inside out. Second, by reviewing the schematics of the television set, and other evidence, he surmised that the television was energized at the time the fire began. Third, he decided that there was sufficient fuel inside the television set for the fire to spread once it ignited. Yet, although Brugger's chain of reasoning appeals to the common sense of a layman, he introduced no evidence to show that his method was a reliable one.

For one, there was no evidence that fire investigators commonly look to the "burn pattern" inside a product to determine causation. Dkt. no. 42, Ex. G, Brugger Report, at 4. In his expert report, Brugger noted that the fire started inside the [\*\*27] television set because the "burn pattern would have been different" if it had started on the outside. Id. Although his assessment seems plausible, I have no way of knowing whether this approach is the proper one for a fire investigator to take in determining causation. Plaintiffs did not cite any peer reviewed sources or present any testimony verifying the reliability of this technique. And they did not offer any witnesses, except Brugger himself, to support the reliability of this method.

The evidence that was introduced in this case seems to cast doubt on the reliability of Brugger's technique. For instance, City of Altoona Fire Investigator John Mascia noted that reviewing burn patterns was certainly a proper methodology "to get to an origin. Not necessarily the cause[.] To the origin of the fire[.] you follow what we call a burn pattern." Id., Ex. D, Mascia Dep. at 34 (emphasis added); see also id., Ex. H, Campbell Report, at 6 ("fire damage patterns. . . can be used to determine the point of origin of a fire."). In addition, plaintiffs three (3) other experts who reviewed the debris refused to opine that the television caused the fire based solely on their review [\*\*28] of the burned physical evidence. Finally, defendant's experts each indicated that Brugger's method of determining cause based on the physical evidence ran afoul of those techniques generally accepted by fire investigators. Id., Ex. H, Campbell Report, at 9; id., Ex. I, Malcolm Report, at 10.

Second, there was no evidence that fire investigators look to schematics to determine whether an item is sufficiently energized to ignite a blaze. During the Daubert hearing, Brugger testified that this method of analysis is called "circuit analysis, one of the aspects of electrical engineering where the behavior and

characteristics of the circuit can be evaluated and analyzed from looking at the circuit without having the physical product in front of you." Dkt. no. 62, at 5. Again, while Brugger's use of the schematics seems reasonable, he provided no testimony about the reliability of this method. Dkt. no. 54, at 50-62. Certainly, such a field of electrical engineering is the subject of numerous books and articles. Yet, Brugger did not introduce any such evidence to verify the reliability of this method. Nor did he testify about his own experience employing such a technique in the [\*\*29] past. Without such evidence, I simply have no way of judging the reliability of Brugger's methodology. n13

n13 Defendant also cast doubt on Brugger's method of determining whether the television was energized at the time of the fire because Brugger failed to examine certain evidence. For example, Brugger never examined the power cord to the set, dkt. no. 62, at 44-45, even though he admitted that the power cord is an important piece of evidence in deciding whether the television was energized at the time of the fire. Id. at 45.

[\*424] Finally, the only area where Brugger did cite sources to support his methodology was in his determination that there was sufficient fuel inside the television to support the fire. Although Brugger admitted that the components of the television were fire retardant when new, he opined that dust, oils, and age had worn down these fire retardant properties thereby allowing the components of the set to act as fuel for a young fire. Dkt. no. 62, at 4-5. In making this determination, Brugger [\*\*30] relied on Electrical Fire Analysis, a book written in 1987 by Robert Yereance. Dkt. no. 53, at 103, 124, 129, 131; dkt. no. 62, at 9. Brugger never tested Mr. Yereance's hypothesis himself. Dkt. no. 62, at 7. And he was unable to point to another piece of literature that supported Yereance's theory about fire retardancy. Id. at 10.

The problem with Yereance's theory is that it was peer reviewed and found to be without support. In a May 1990 issue of Fire Technology, a publication of the National Fire Protection Association ("NFPA"), Theodore Bernstein from the University of Wisconsin had the following to say about Mr. Yereance's book:

This book provides many anecdotal stories

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about fire investigations conducted by Mr. Yereance but is lacking in technical details and supporting technical documentation. There are no references cited. Because of the lack of documentation, a reader might infer that Mr. Yereance's conclusions are generally accepted facts by most fire investigators--they are not.

Def's Ex. 4, at 178. Concerning Yereance's discussion of electrical fires in televisions and other household electrical systems, Bernstein stated that "many case studies [\*31] do not present sufficient detail to be of value." Id. Bernstein concluded his review of Yereance's book with the following words of criticism:

All in all, this book has some interesting discussion about general fire investigation. It is quite weak on the technical aspects of investigating alleged electrical fires. Without any references or supporting technical literature, it is impossible to properly evaluate the author's conclusions concerning the evaluation of alleged electrically caused fires.

Id. at 180. When confronted with this peer review of Yereance's work, Brugger admitted that it seemed to cover the methodology that he employed in this case. Dkt. no. 62, at 17. Apparently, even Yereance later tempered his methodology. In a second edition of his book, he stated two reasons why fire retardant properties may lose their effectiveness. Id. at 26. After stating this explanation, Yereance provided the following words of caution: "whether either of these explanations is correct or not, I do not know." Id. n14

n14 Although the plaintiffs failed to introduce evidence concerning the proper methodology for a fire investigation, the defendant did introduce some evidence. In particular, defendant introduced evidence that NFPA 921 and Kirk's Fire Investigation set forth established and reliable methodology for fire investigators. Dkt. no. 54, at 66-67, 71. Defendant also introduced evidence that Brugger had not followed this methodology in certain respects. See, e.g., dkt. no. 42, Ex. H, Campbell Report, at 9; id., Ex. I, Malcolm Report, at 10. For instance,

some of the breakers in the circuit breaker box in the southeast corner of the room were found open by the fire investigators. Dkt. no. 54, at 115; dkt. no. 62, at 30-31. Brugger did not know whether the circuits had been moved by electrical current, a possible cause of the fire, or human hands. Dkt. no. 62, at 30-31. Yet, he never disassembled or retained the box. Dkt. no. 54, at 116.

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It is not surprising that plaintiffs did not introduce evidence of a reliable methodology because Brugger himself stated that he was not required to follow any particular [\*425] guidelines. For example, Brugger acknowledged that NFPA 921 is meant as a guide for fire investigators, yet he stated that "it is not a rule. It is not a step by step procedure that each investigation must follow." Dkt. no. 54, at 66. Additionally, he admitted that Kirk's Fire Investigation sets forth an established method for fire investigation, but felt that he was not "obliged" to follow it. Id. at 71

Indeed, after a two-day Daubert hearing, only one general principle of fire investigation emerged from plaintiffs' case in chief: "all fires are different from one another." Id. at 67; id. at 99 ("no two fires are the same, and the investigation proceeds based on what is discovered and what is observed."). While this is no doubt true, it is a principle that governs all scientific and technical endeavors. In fact, it is because all scientific endeavors are somehow unique that Daubert places an emphasis on methodology and not conclusions. For an expert's testimony to be admissible under [\*33] Daubert, he must offer more than just his belief that every investigation is different. He must demonstrate that he employs a reliable methodology to each of these different investigations. In the present case, Brugger has simply not met this burden. n15

n15 This is not a case in which plaintiffs were unaware of their obligations under Daubert. In fact, during the Daubert hearing, plaintiffs' counsel claimed that Brugger had satisfied his obligations under Daubert. "Mr. Brugger went to the scene of the fire and he conducted a thorough site investigation. He did a walk through -- first of all, he did a walk around the fire building. Then he did a walk through of the fire building starting from the area of least burn to the area of heaviest

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burn. This is a typical methodology that is employed by fire investigators. It's something that's in all of the literature. Kirk's on Fire Investigation and the NFPA 921 specifies that this is the way to conduct a fire investigation." Dkt. no. 54, at 8; see also id. at 15 (stating that Brugger relied upon NFPA 921 and "basic engineering principles from his training, experience and education as an electrical engineer."). Nevertheless, plaintiffs never introduced any of this "literature" in evidence. Id. at 8. Additionally, plaintiffs never showed how Brugger's methodology was consistent with that set forth in the literature. Had plaintiffs merely introduced the evidence that they claimed they were going to introduce in their opening statement, I would now be examining Brugger's testimony in a different light.

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A brief review of some of the Daubert factors confirms that plaintiffs have fallen short of producing the kind of evidence they need to overcome Rule 702's basic requirements. First, no evidence was introduced to show that Brugger's method is generally accepted or even that it has been put to use by others in the past. (fifth, sixth, and eighth Daubert factors). Second, Brugger's method does not appear to have been subject to peer review. (second Daubert factor). Third, Brugger provided no evidence that would aid in determining the known or potential rate of error of his method. (third Daubert factor). Finally, other than the principle that "all fires are different," id. at 67, there are few standards that control Brugger's technique. (fourth Daubert factor). In short, Brugger's opinion is based on nothing more than his training and years of experience as a fire investigator and engineer. While there may be cases when experience and training alone provide an adequate foundation for an expert opinion under Rule 702, this is not one of them. See, e.g., *Oddi*, 234 F.3d 136, 2000 WL 1517673, at \*19. n16

n16 Before expert testimony grounded solely in knowledge and experience can be admissible under Rule 702, the expert must still prove that his methodology is reliable. In such cases, the expert may do so by: 1) discussing his experience and knowledge in detail; 2) explaining the

methods he has used in the past; 3) indicating the success or failure that he has enjoyed in employing these methods; and 4) testifying about how he used the same methods in the investigation at issue. At the Daubert hearing, Brugger did not present this kind of detailed testimony.

[\*\*35] [\*426]

Recent cases support my decision to exclude the expert testimony in the matter before me. The record in this case bears a striking resemblance to the lack of evidence presented in both *Oddi* and *Elcock* in a number of ways. First, Brugger did not "identify any particular literature that he relied upon to form any of [his] opinions," 234 F.3d at 148, id. at \*9, and he failed to show that his method was "either used by other experts" or cited in the professional literature. *Elcock*, 233 F.3d 734, 2000 U.S. App. LEXIS 34822, at \*39, 2000 WL 1782158 at \*13. Additionally, Brugger never "explained his method in rigorous detail" and "it would have been nearly impossible for [Sony's] experts to repeat [his] subjective methods." 233 F.3d 734, 2000 U.S. App. LEXIS 34822, at \*33. Id. at \*11. Finally, Brugger "used little, if any methodology beyond his own intuition. There is nothing here to submit to peer review. . . . Similarly, no standards control his analysis, and no 'gatekeeper' can assess the relationship of [his] method to other methods known to be reliable and the non-judicial uses to which it has been put." *Oddi*, 234 F.3d 136, 158, 2000 WL 1517673, at \*20. Such a lack of evidence required the exclusion of the experts [\*\*36] in both *Elcock* and *Oddi*. The result should be the same here.

The lack of evidence in this case also brings to mind the facts of *Kumho Tire*. In that case, the Supreme Court wrote the following:

We have found no indication in the record that other experts in the industry use Carlson's two-factor test or that tire experts such as Carlson normally make the very fine distinctions about say, the symmetry of comparatively greater shoulder tread that were necessary, on Carlson's own theory, to support his conclusions. Nor, despite the prevalence of tire testing, does anyone refer to any articles or papers that validate Carlson's

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approach. . . . Of course, Carlson himself claimed that his method was accurate, but, as we [have] pointed out . . . "nothing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert."

*Kumho Tire*, 526 U.S. at 156-57. Just as in *Kumho Tire*, the only evidence in this case to validate Brugger's method is Brugger's own claim that his method is reliable. Such evidence is insufficient to overcome [\*\*37] even the most basic requirements of Rule 702.

I am not unsympathetic to the plight of plaintiffs in this case. A fire destroyed their house and with it a large portion of the evidence needed to prove the fire's precise cause. Mr. Brugger seems to have carefully examined and methodically sifted through the debris in order to draw his conclusion about the cause of this fire. But careful study and methodical examination are not a substitute for valid methodology under Daubert. To admit causation testimony of the kind offered by Mr. Brugger, I must have some evidence of exactly what is a valid methodology for fire investigators and electrical engineers in instances such as the present case. Is it proper for electrical engineers to render causation opinions based on a determination that the equipment burned from the inside out? Is it proper for electrical engineers to determine whether a television was energized based on a review of the set's schematics? And is it proper to assume that fire retardant properties wear down sufficiently to support a burgeoning fire? Without further evidence, I have no way of knowing the answers to these questions. If Daubert and its progeny require [\*\*38] anything, it is that plaintiffs come forward with proof of a valid methodology based on more than just the *ipse dixit* of the expert. Id. Plaintiffs have fallen woefully short on this front. They have produced no evidence to validate Mr. Brugger's methodology. Accordingly, I have no choice but to exclude [\*427] his causation testimony under Rule 702 of the Federal Rules of Evidence. n17

n17 My decision is not meant to disparage Mr. Brugger's qualifications as an electrical engineer or fire investigator. Based on his testimony at the Daubert hearing, Mr. Brugger showed himself to be an able expert with a firm

grasp of his investigation in this case. The problem here was not with the expert's ability, knowledge, or experience, it was with the lack of proof offered to support his methodology.

#### IV

Absent Brugger's testimony, plaintiffs' claims under Pennsylvania law cannot survive Sony's motion for summary judgment.

I begin with plaintiffs' claim for strict liability. To recover on a theory of strict liability [\*\*39] under Pennsylvania law, a plaintiff must prove that: (1) the product was defective; (2) the defect was the proximate cause of the plaintiff's injuries; and (3) the defect existed at the time it left the manufacturer's control. *Woodin v. J.C. Penney Co., Inc.*, 427 Pa. Super. 488, 629 A.2d 974, 975 (Pa. Super. Ct. 1993). In those cases, like the present one, where the plaintiff cannot prove the precise nature of the product defect, he may rely on the "malfunction theory" of product liability. *Rogers v. Johnson & Johnson Products, Inc.*, 523 Pa. 176, 565 A.2d 751, 754 (Pa. 1989). The "malfunction theory" allows the plaintiff to prove a defect in a product with circumstantial evidence of the occurrence of a malfunction and with evidence eliminating abnormal use or reasonable, secondary causes for the malfunction. Id.

Absent Brugger's causation testimony, plaintiffs do not have sufficient evidence to create an issue of fact even under the malfunction theory. For one, they have presented no evidence of a malfunction in the television. In fact, the only evidence presented by plaintiffs is that the area of the television and the VCR are the origin of the [\*\*40] fire. Such evidence is insufficient to survive a motion for summary judgment, even under the relaxed standards of the malfunction theory. It would require a leap grounded in "conjecture or guesswork" for the jury to conclude that there was a defect in the Sony television based solely on evidence that the fire started in the area where the television and VCR were located. *Woodin*, 629 A.2d at 976. Additionally, plaintiffs are unable to present any evidence negating other reasonable secondary causes of the fire. Absent Brugger's causation testimony, plaintiffs are unable to exclude the VCR as a possible origin and cause of the fire. Under *Federal Rule of Civil Procedure 56*, "[a] complete failure of proof concerning an essential element," *Celotex Corp. v. Catrett*, 477 U.S. 317, 323-24, 91 L. Ed. 2d 265, 106 S. Ct. 2548 (1986), on

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which a party bears the burden of proof at trial establishes that the moving party is "entitled to a judgment as a matter of law." Id. Accordingly, defendant's motion for summary judgment should be granted on plaintiffs' strict liability claim.

Plaintiffs have also failed to produce sufficient evidence to survive defendant's [\*\*41] motion on their claim of breach of warranties. Under Pennsylvania law, the implied warranties of merchantability and fitness for a particular purpose serve to protect buyers from loss where the goods they purchase are below commercial standards or are unfit for the buyer's purpose. *Altronics of Bethlehem, Inc. v. Repco, Inc.*, 957 F.2d 1102, 1105 (3d Cir. 1992). "To establish a breach of either warranty, plaintiffs must show that the equipment they purchased from defendant was defective." Id. Just as with a claim for strict liability, plaintiffs can prove defect through circumstantial evidence. Nevertheless, to meet their burden, plaintiffs must show: (1) that the product malfunctioned; (2) [\*428] that the plaintiffs used the product as intended by the manufacturer; and (3) the absence of reasonable secondary causes. Id. As discussed above, plaintiffs have failed to come forward with evidence demonstrating that the product malfunctioned and showing the absence of reasonable secondary causes. Accordingly, defendant's motion for summary judgment will be granted as to plaintiffs' claim for breach of warranties.

Finally, I will grant defendant's motion on plaintiffs' claim [\*\*42] for negligence. To sustain a product liability claim based on negligence, a plaintiff must prove that the product was defective, that the defect proximately caused an injury, and that the defendant failed to exercise due care in designing or manufacturing the product. *Van Scy v. Powermatic*, 810 F. Supp. 131, 135 (M.D. Pa. 1992). Just as plaintiffs have failed to prove defect on their other claims, so too they have fallen short on that element in this claim as well. I will grant defendant's motion on plaintiffs' negligence claim.

V

The problem with plaintiffs' proof in this case can be neatly summed up by quoting Theodore Bernstein's review of Robert Yereance's Electrical Fire Analysis:

All in all, this book has some interesting discussion about general fire investigation. It is quite weak on the technical aspects of investigating alleged electrical fires. Without any references or supporting technical literature, it is impossible to properly evaluate the author's conclusions concerning the evaluation of alleged electrically caused fires.

Def.'s Ex. 4, at 180. Richard Brugger's investigation suffers from the same defect that plagued Yereance's [\*\*43] book. After two (2) years of discovery and two (2) days of hearings, plaintiffs have provided no evidence showing that Brugger employed a valid and reliable methodology when he conducted his investigation. Without such evidence, it is simply "impossible to properly evaluate," id., Brugger's methodology and to admit his testimony under Rule 702. Accordingly, I will exclude Brugger's testimony and grant defendant's motion for summary judgment.

An appropriate Order is attached.

BY THE COURT:

D. Brooks Smith

United States District Judge

ORDER

AND NOW this 27th day of December, 2000, in consideration of defendant's motion for summary judgment, dkt. no. 40, it is hereby ORDERED and DIRECTED that defendant's motion is GRANTED. Final judgment shall be entered for defendant on all counts in plaintiffs' complaint and the Clerk of Courts shall mark this case CLOSED.

BY THE COURT:

D. Brooks Smith

United States District Judge